WE CLAIM:

1. A connection device comprising:

one or more processing units; and

an optical switch adapted to connect at least one of the units to one or more optical signals based on a characteristic of each signal.

2. The device as in claim 1 wherein the at least one unit comprises a Raman pump.

3. The device as in claim 1 wherein the at least one unit comprises an optical-to-electrical-to-optical regenerator.

4. The device as in claim 1 wherein the at least one unit comprises a dispersion equalization/compensation unit.

5. The device as in claim 1 wherein the at least one unit comprises a performance monitor.

6. A router comprising:

one or more processing units; and

an optical switch adapted to connect at least one of the units to one or more optical signals based on a characteristic of each signal.

7. The router as in claim 6 wherein the at least one unit comprises a Raman pump.

8. The router as in claim 6 wherein the at least one unit comprises an optical-to-electrical-to-optical regenerator.

9. The router as in claim 6 wherein the at least one unit comprises a dispersion equalization/compensation unit.

10. The router as in claim 6 wherein the at least one unit comprises a performance monitor.

11. A method for providing an optical, service-enabled connection comprising:

connecting at least one of a number of processing units to one or more optical signals based on a characteristic of each signal.

12. The method as in claim 11 wherein the at least one unit comprises a Raman pump.

13. The method as in claim 11 wherein the at least one unit comprises an optical-to-electrical-to-optical regenerator.

14. The method as in claim 11 wherein the at least one unit comprises a dispersion equalization/compensation unit.

15. The method as in claim 11 wherein the at least one unit comprises a performance monitor.